2655 Park Center Drive, Suite A Simi Valley, California 93065 (805) 526-7161 (805) 526-7270 fax

Columbia Analytical Services INC.
An Employee - Owned Company

LABORATORY REPORT

July 20, 2009

Matt Fragala
Environmental Health & Engineering, Inc.
117 Fourth Avenue
Needham, MA 02494

RE: 16512

Dear Matt:

Enclosed are the results of the samples submitted to our laboratory on July 10, 2009. For your reference, these analyses have been assigned our service request number P0902367.

All analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.caslab.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein. Your report contains 32 pages.

Columbia Analytical Services, Inc. is certified by the California Department of Health Services, NELAP Laboratory Certificate No. 02115CA; Arizona Department of Health Services, Certificate No. AZ0694; Florida Department of Health, NELAP Certification E871020; New Jersey Department of Environmental Protection, NELAP Laboratory Certification ID #CA009; New York State Department of Health, NELAP NY Lab ID No: 11221; Oregon Environmental Laboratory Accreditation Program, NELAP ID: CA20007; The American Industrial Hygiene Association, Laboratory #101661; Department of the Navy (NFESC); Pennsylvania Registration No. 68-03307; TX Commission of Environmental Quality, NELAP ID T104704413-08-TX. Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact me for information corresponding to a particular certification.

If you have any questions, please call me at (805) 526-7161.

Respectfully submitted,

Columbia Analytical Services, Inc.

Kate Aguilera
Project Manager

2655 Park Center Drive, Suite A Simi Valley, California 93065 (805) 526-7161 (805) 526-7270 fax

Columbia Analytical Services INC.
An Employee - Owned Company

Client: Environmental Health & Engineering, Inc. CAS Project No: P0902367
Project: 16512

CASE NARRATIVE

The samples were received intact under chain of custody on July 10, 2009 and were stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the samples at the time of sample receipt.

Aldehyde Analysis

The samples were analyzed for aldehydes according to EPA Method TO-11A using high performance liquid chromatography (HPLC).

The samples were received at a temperature exceeding the method requirement; otherwise, the samples were received intact.

The samples identified as '99093 and 99143' were received wet, due to the moisture in the tube a hit of 2,5-Dimethylbenzaldehyde can result as a false positive.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for utilization of less than the complete report.

Client: Environmental Health & Engineering, Inc.
Project: 16512

Service Request: P0902367

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
P0902367-001	99058	7/9/09	00:00
P0902367-002	99063	7/9/09	00:00
P0902367-003	99068	7/9/09	00:00
P0902367-004	99073	7/9/09	00:00
P0902367-005	99074	7/9/09	00:00
P0902367-006	99083	7/9/09	00:00
P0902367-007	99088	7/9/09	00:00
P0902367-008	99093	7/9/09	00:00
P0902367-009	99098	7/9/09	00:00
P0902367-010	99103	7/9/09	00:00
P0902367-011	99104	7/9/09	00:00
P0902367-012	99113	7/9/09	00:00
P0902367-013	99118	7/9/09	00:00
P0902367-014	99123	7/9/09	00:00
P0902367-015	99128	7/9/09	00:00
P0902367-016	99129	7/9/09	00:00
P0902367-017	99138	7/9/09	00:00
P0902367-018	99143	7/9/09	00:00
P0902367-019	99148	7/9/09	00:00
P0902367-020	99153	7/9/09	00:00
P0902367-021	99154	7/9/09	00:00
P0902367-022	99163	7/9/09	00:00

Environmental Health & Engineering, Inc.

CHAIN OF CUSTODY FORM

DATE: 7/9/09

FROM: Environmental Health and Engineering, Inc.
117 Fourth Avenue
Needham, MA 02494-2725

PO#02367

TO: Columbia Analytical

Please send invoices to ATTN: Accounts Payable
Please send reports to ATTN: Data Coordinator

In all correspondence regarding this matter, please refer to EH&E Project # 16512

The cost of this analysis will be covered by EH&E Purchase Order # 16512

For EH & E Data Coordinator - URGENT DATA ☒

	SAMPLE ID	SAMPLE TYPE	ANALYTICAL METHOD/NUMBER	OTHER:Time/Date/Vol.
1	99058	Tube	EPA TO-11A Full List	106.1
2	99063			103.2
3	99068			103.7
4	99073			96.7
5	99074			97.2
6	99083			0
7	99086			99.6
8	99093			86.6
9	99098			101.7
10	99103			104.9
11	99104			97.9
12	99113			121
13	99118			70.9
14	99123			97.7
15	99128			62.6
16	99129	↓	↓	72.3

Special instructions:

☐ Standard turn around time ☒ Rush by 5 Day date/time ☐ Other _____

☐ Fax results 781-247-4305

☐ **RETURN SAMPLES** ☒ Electronic transfer - datacoordinator@eheinc.com

☒ Additional report recipient mfragala@eheinc.com

Each signatory please return one copy of this form to the above address

Relinquished by: _____ of Environmental Health & Engineering, Inc. Date: 7/9/09

Received by: _____ of (company name) CAS Date: 7/10/09 0930

Relinquished by: _____ of (company name) _____ Date: _____

Received by: _____ of (company name) _____ Date: _____

Relinquished by: _____ of (company name) _____ Date: _____

Received by: _____ of (company name) _____ Date: _____

Lab Data
Received by: _____ of Environmental Health & Engineering, Inc. Date: _____

WHITE-EH&E FILE COPY YELLOW-LAB COPY PINK-PROJECT MANAGER COPY GOLD-DATA COORDINATOR COPY

Environmental Health & Engineering, Inc.

CHAIN OF CUSTODY FORM

DATE: 7/9/09

FROM: Environmental Health and Engineering, Inc.
117 Fourth Avenue
Needham, MA 02494-2725

P0902367

TO: CAS

Please send invoices to ATTN: Accounts Payable
Please send reports to ATTN: Data Coordinator

In all correspondence regarding this matter, please refer to EH&E Project # 16512

The cost of this analysis will be covered by EH&E Purchase Order # 16512

For EH & E Data Coordinator - URGENT DATA ☒

	SAMPLE ID	SAMPLE TYPE	ANALYTICAL METHOD/NUMBER	OTHER:Time/Date/Vol.
(17)	99138	Tube	EPA TO-11A Full List	104.2
(18)	99143	↓	↓	76.4
(19)	99148			101.3
(20)	99153			108.5
(21)	99154			103.9
(22)	99163			0

Special instructions:

☐ Standard turn around time ☒ Rush by 5 Day (date/time) ☐ Other _____

☐ Fax results 781-247-4305

☐ **RETURN SAMPLES** ☒ Electronic transfer - datacoordinator@eheinc.com

☒ Additional report recipient mfragala@eheinc.com

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Relinquished by: _____ of Environmental Health & Engineering, Inc. Date: 7/9/09

Received by: _____ of (company name) CAS Date: 7/10/09 0930

Relinquished by: _____ of (company name) _____ Date: _____

Received by: _____ of (company name) _____ Date: _____

Relinquished by: _____ of (company name) _____ Date: _____

Received by: _____ of (company name) _____ Date: _____

Lab Data
Received by: _____ of Environmental Health & Engineering, Inc. Date: _____

5

16°C

WHITE-EH&E FILE COPY YELLOW-LAB COPY PINK-PROJECT MANAGER COPY GOLD-DATA COORDINATOR COPY

Columbia Analytical Services, Inc.
Sample Acceptance Check Form

Client: Environmental Health & Engineering, Inc. Work order: P0902367

Project: 16512

Sample(s) received on: 07/10/09 Date opened: 07/10/09 by: MZAMORA

Note: This form is used for all samples received by CAS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

		Yes	No	N/A
1	Were **sample containers** properly marked with client sample ID?	☒	☐	☐
2	Container(s) **supplied by CAS**?	☐	☒	☐
3	Did **sample containers** arrive in good condition?	☒	☐	☐
4	Was a **chain-of-custody** provided?	☒	☐	☐
5	Was the **chain-of-custody** properly completed?	☒	☐	☐
6	Did **sample container labels** and/or tags agree with custody papers?	☒	☐	☐
7	Was **sample volume** received adequate for analysis?	☒	☐	☐
8	Are samples within specified holding times?	☒	☐	☐
9	Was proper **temperature** (thermal preservation) of cooler at receipt adhered to?	☐	☒	☐
	Cooler Temperature 16 °C Blank Temperature ____ °C			
10	Was a **trip blank** received?	☐	☒	☐
	Trip blank supplied by CAS: ____			
11	Were **custody seals** on outside of cooler/Box?	☐	☒	☐
	Location of seal(s)? ____ Sealing Lid?	☐	☐	☒
	Were signature and date included?	☐	☐	☒
	Were seals intact?	☐	☐	☒
	Were custody seals on outside of sample container?	☐	☒	☐
	Location of seal(s)? ____ Sealing Lid?	☐	☐	☒
	Were signature and date included?	☐	☐	☒
	Were seals intact?	☐	☐	☒
12	Do containers have appropriate **preservation**, according to method/SOP or Client specified information?	☐	☐	☒
	Is there a client indication that the submitted samples are **pH** preserved?	☐	☐	☒
	Were **VOA vials** checked for presence/absence of air bubbles?	☐	☐	☒
	Does the client/method/SOP require that the analyst check the sample pH and if necessary alter it?	☐	☐	☒
13	**Tubes:** Are the tubes capped and intact?	☐	☒	☐
	Do they contain moisture?	☐	☒	☐
14	**Badges:** Are the badges properly capped and intact?	☐	☐	☒
	Are dual bed badges separated and individually capped and intact?	☐	☐	☒

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P0902367-001.01	Silica Gel DNPH Tube					
P0902367-002.01	Silica Gel DNPH Tube					
P0902367-003.01	Silica Gel DNPH Tube					
P0902367-004.01	Silica Gel DNPH Tube					
P0902367-005.01	Silica Gel DNPH Tube					
P0902367-006.01	Silica Gel DNPH Tube					

Explain any discrepancies: (include lab sample ID numbers):

Sample -013 was received with one endcap detached.

*Required pH: Phenols/COD/NH3/TOC/TOX/NO3+NO2/TKN/T.PHOS, H2SO4 (pH<2); Metals, HNO3 (pH<2); CN (NaOH or NaOH/Asc Acid) (pH>12); Diss. Sulfide, NaOH (pH>12); T. Sulfide, NaOH/ZnAc (pH>12) RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

Columbia Analytical Services, Inc.
Sample Acceptance Check Form

Client: Environmental Health & Engineering, Inc. Work order: P0902367

Project: 16512

Sample(s) received on: 07/10/09 Date opened: 07/10/09 by: MZAMORA

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P0902367-007.01	Silica Gel DNPH Tube					
P0902367-008.01	Silica Gel DNPH Tube					
P0902367-009.01	Silica Gel DNPH Tube					
P0902367-010.01	Silica Gel DNPH Tube					
P0902367-011.01	Silica Gel DNPH Tube					
P0902367-012.01	Silica Gel DNPH Tube					
P0902367-013.01	Silica Gel DNPH Tube					
P0902367-014.01	Silica Gel DNPH Tube					
P0902367-015.01	Silica Gel DNPH Tube					
P0902367-016.01	Silica Gel DNPH Tube					
P0902367-017.01	Silica Gel DNPH Tube					
P0902367-018.01	Silica Gel DNPH Tube					
P0902367-019.01	Silica Gel DNPH Tube					
P0902367-020.01	Silica Gel DNPH Tube					
P0902367-021.01	Silica Gel DNPH Tube					
P0902367-022.01	Silica Gel DNPH Tube					

Explain any discrepancies: (include lab sample ID numbers):

*Required pH: Phenols/COD/NH3/TOC/TOX/NO3+NO2/TKN/T.PHOS, H2SO4 (pH<2); Metals, HNO3 (pH<2); CN (NaOH or NaOH/Asc Acid) (pH>12);
Diss. Sulfide, NaOH (pH>12); T. Sulfide, NaOH/ZnAc (pH>12) RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **Environmental Health & Engineering, Inc.**
Client Sample ID: **99058**
Client Project ID: **16512**

CAS Project ID: P0902367
CAS Sample ID: P0902367-001

Test Code: EPA Method TO-11A
Instrument ID: Waters LC Module I Plus/UV_Vis 360/LC1
Analyst: Hani Cherazaie
Sampling Media: Silica Gel DNPH Tube
Test Notes: **BC**

Date Collected: 7/9/09
Date Received: 7/10/09
Date Analyzed: 7/12 - 7/13/09
Desorption Volume: 1.0 ml
Volume Sampled: 106.1 Liter(s)

CAS #	Compound	Result ng/Sample	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
50-00-0	**Formaldehyde**	**9,900**	**94**	0.94	**76**	0.77	
75-07-0	**Acetaldehyde**	**3,600**	**34**	0.94	**19**	0.52	
123-38-6	**Propionaldehyde**	**780**	**7.4**	0.94	**3.1**	0.40	
4170-30-3	Crotonaldehyde, Total	< 100	ND	0.94	ND	0.33	
123-72-8	**Butyraldehyde**	**650**	**6.1**	0.94	**2.1**	0.32	
100-52-7	**Benzaldehyde**	**1,300**	**12**	0.94	**2.9**	0.22	
590-86-3	**Isovaleraldehyde**	**260**	**2.5**	0.94	**0.70**	0.27	
110-62-3	**Valeraldehyde**	**2,500**	**24**	0.94	**6.8**	0.27	
529-20-4	o-Tolualdehyde	< 100	ND	0.94	ND	0.19	
620-23-5							
104-87-0	m,p-Tolualdehyde	< 200	ND	1.9	ND	0.38	
66-25-1	**n-Hexaldehyde**	**11,000**	**100**	0.94	**25**	0.23	
5779-94-2	2,5-Dimethylbenzaldehyde	< 100	ND	0.94	ND	0.17	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
BC = Results reported are not blank corrected.

Verified By: RC Date: 7/16/09

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **Environmental Health & Engineering, Inc.**
Client Sample ID: **99063**
Client Project ID: **16512**

CAS Project ID: P0902367
CAS Sample ID: P0902367-002

Test Code: EPA Method TO-11A
Instrument ID: Waters LC Module I Plus/UV_Vis 360/LC1
Analyst: Hani Cherazaie
Sampling Media: Silica Gel DNPH Tube
Test Notes: **BC**

Date Collected: 7/9/09
Date Received: 7/10/09
Date Analyzed: 7/12/09
Desorption Volume: 1.0 ml
Volume Sampled: 103.2 Liter(s)

CAS #	Compound	Result ng/Sample	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
50-00-0	**Formaldehyde**	**620**	**6.0**	0.97	**4.9**	0.79	
75-07-0	**Acetaldehyde**	**250**	**2.4**	0.97	**1.4**	0.54	
123-38-6	Propionaldehyde	< 100	ND	0.97	ND	0.41	
4170-30-3	Crotonaldehyde, Total	< 100	ND	0.97	ND	0.34	
123-72-8	Butyraldehyde	< 100	ND	0.97	ND	0.33	
100-52-7	Benzaldehyde	< 100	ND	0.97	ND	0.22	
590-86-3	Isovaleraldehyde	< 100	ND	0.97	ND	0.28	
110-62-3	Valeraldehyde	< 100	ND	0.97	ND	0.28	
529-20-4	o-Tolualdehyde	< 100	ND	0.97	ND	0.20	
620-23-5							
104-87-0	m,p-Tolualdehyde	< 200	ND	1.9	ND	0.39	
66-25-1	n-Hexaldehyde	< 100	ND	0.97	ND	0.24	
5779-94-2	2,5-Dimethylbenzaldehyde	< 100	ND	0.97	ND	0.18	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
BC = Results reported are not blank corrected.

Verified By: Re Date: 7/16/09

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **Environmental Health & Engineering, Inc.**
Client Sample ID: **99068**
Client Project ID: **16512**

CAS Project ID: P0902367
CAS Sample ID: P0902367-003

Test Code: EPA Method TO-11A
Instrument ID: Waters LC Module I Plus/UV_Vis 360/LC1
Analyst: Hani Cherazaie
Sampling Media: Silica Gel DNPH Tube
Test Notes: **BC**

Date Collected: 7/9/09
Date Received: 7/10/09
Date Analyzed: 7/12/09
Desorption Volume: 1.0 ml
Volume Sampled: 103.7 Liter(s)

CAS #	Compound	Result ng/Sample	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
50-00-0	**Formaldehyde**	**8,700**	**84**	0.96	**68**	0.79	**M**
75-07-0	**Acetaldehyde**	**2,500**	**24**	0.96	**13**	0.54	
123-38-6	**Propionaldehyde**	**600**	**5.8**	0.96	**2.4**	0.41	
4170-30-3	Crotonaldehyde, Total	< 100	ND	0.96	ND	0.34	
123-72-8	**Butyraldehyde**	**430**	**4.2**	0.96	**1.4**	0.33	
100-52-7	**Benzaldehyde**	**840**	**8.1**	0.96	**1.9**	0.22	
590-86-3	**Isovaleraldehyde**	**130**	**1.3**	0.96	**0.36**	0.27	
110-62-3	**Valeraldehyde**	**1,600**	**16**	0.96	**4.5**	0.27	
529-20-4	o-Tolualdehyde	< 100	ND	0.96	ND	0.20	
620-23-5							
104-87-0	m,p-Tolualdehyde	< 200	ND	1.9	ND	0.39	
66-25-1	**n-Hexaldehyde**	**7,700**	**74**	0.96	**18**	0.24	
5779-94-2	2,5-Dimethylbenzaldehyde	< 100	ND	0.96	ND	0.18	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
BC = Results reported are not blank corrected.
M = Matrix interference; results may be biased high.

Verified By: Rer Date: 7/16/09

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **Environmental Health & Engineering, Inc.**
Client Sample ID: **99073**
Client Project ID: **16512**

CAS Project ID: P0902367
CAS Sample ID: P0902367-004

Test Code: EPA Method TO-11A
Instrument ID: Waters LC Module I Plus/UV_Vis 360/LC1
Analyst: Hani Cherazaie
Sampling Media: Silica Gel DNPH Tube
Test Notes: **BC**

Date Collected: 7/9/09
Date Received: 7/10/09
Date Analyzed: 7/12 - 7/13/09
Desorption Volume: 1.0 ml
Volume Sampled: 96.7 Liter(s)

CAS #	Compound	Result ng/Sample	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
50-00-0	**Formaldehyde**	**11,000**	**110**	1.0	**90**	0.84	**M**
75-07-0	**Acetaldehyde**	**3,100**	**32**	1.0	**18**	0.57	
123-38-6	**Propionaldehyde**	**730**	**7.6**	1.0	**3.2**	0.44	
4170-30-3	Crotonaldehyde, Total	< 100	ND	1.0	ND	0.36	
123-72-8	**Butyraldehyde**	**570**	**5.9**	1.0	**2.0**	0.35	
100-52-7	**Benzaldehyde**	**1,200**	**12**	1.0	**2.9**	0.24	
590-86-3	**Isovaleraldehyde**	**250**	**2.6**	1.0	**0.73**	0.29	
110-62-3	**Valeraldehyde**	**2,200**	**23**	1.0	**6.5**	0.29	
529-20-4	o-Tolualdehyde	< 100	ND	1.0	ND	0.21	
620-23-5							
104-87-0	m,p-Tolualdehyde	< 200	ND	2.1	ND	0.42	
66-25-1	**n-Hexaldehyde**	**10,000**	**100**	1.0	**25**	0.25	
5779-94-2	2,5-Dimethylbenzaldehyde	< 100	ND	1.0	ND	0.19	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
BC = Results reported are not blank corrected.
M = Matrix interference; results may be biased high.

Verified By: Rc Date: 7/16/09

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **Environmental Health & Engineering, Inc.**
Client Sample ID: **99074**
Client Project ID: **16512**

CAS Project ID: P0902367
CAS Sample ID: P0902367-005

Test Code: EPA Method TO-11A
Instrument ID: Waters LC Module I Plus/UV_Vis 360/LC1
Analyst: Hani Cherazaie
Sampling Media: Silica Gel DNPH Tube
Test Notes: **BC**

Date Collected: 7/9/09
Date Received: 7/10/09
Date Analyzed: 7/12 - 7/13/09
Desorption Volume: 1.0 ml
Volume Sampled: 97.2 Liter(s)

CAS #	Compound	Result ng/Sample	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
50-00-0	**Formaldehyde**	**10,000**	**100**	1.0	**84**	0.84	
75-07-0	**Acetaldehyde**	**3,100**	**32**	1.0	**18**	0.57	
123-38-6	**Propionaldehyde**	**740**	**7.6**	1.0	**3.2**	0.43	
4170-30-3	Crotonaldehyde, Total	< 100	ND	1.0	ND	0.36	
123-72-8	**Butyraldehyde**	**560**	**5.8**	1.0	**2.0**	0.35	
100-52-7	**Benzaldehyde**	**1,100**	**12**	1.0	**2.7**	0.24	
590-86-3	**Isovaleraldehyde**	**210**	**2.1**	1.0	**0.61**	0.29	
110-62-3	**Valeraldehyde**	**2,200**	**22**	1.0	**6.4**	0.29	
529-20-4	o-Tolualdehyde	< 100	ND	1.0	ND	0.21	
620-23-5							
104-87-0	m,p-Tolualdehyde	< 200	ND	2.1	ND	0.42	
66-25-1	**n-Hexaldehyde**	**14,000**	**140**	1.0	**35**	0.25	
5779-94-2	2,5-Dimethylbenzaldehyde	< 100	ND	1.0	ND	0.19	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
BC = Results reported are not blank corrected.

Verified By: RJ Date: 7/16/09

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **Environmental Health & Engineering, Inc.**
Client Sample ID: **99083**
Client Project ID: **16512**

CAS Project ID: P0902367
CAS Sample ID: P0902367-006

Test Code: EPA Method TO-11A
Instrument ID: Waters LC Module I Plus/UV_Vis 360/LC1
Analyst: Hani Cherazaie
Sampling Media: Silica Gel DNPH Tube
Test Notes: **BC**

Date Collected: 7/9/09
Date Received: 7/10/09
Date Analyzed: 7/12/09
Desorption Volume: 1.0 ml
Volume Sampled: NA Liter(s)

CAS #	Compound	Result ng/Sample	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
50-00-0	Formaldehyde	< 100	NA	NA	NA	NA	
75-07-0	Acetaldehyde	< 100	NA	NA	NA	NA	
123-38-6	Propionaldehyde	< 100	NA	NA	NA	NA	
4170-30-3	Crotonaldehyde, Total	< 100	NA	NA	NA	NA	
123-72-8	Butyraldehyde	< 100	NA	NA	NA	NA	
100-52-7	Benzaldehyde	< 100	NA	NA	NA	NA	
590-86-3	Isovaleraldehyde	< 100	NA	NA	NA	NA	
110-62-3	Valeraldehyde	< 100	NA	NA	NA	NA	
529-20-4	o-Tolualdehyde	< 100	NA	NA	NA	NA	
620-23-5							
104-87-0	m,p-Tolualdehyde	< 200	NA	NA	NA	NA	
66-25-1	n-Hexaldehyde	< 100	NA	NA	NA	NA	
5779-94-2	2,5-Dimethylbenzaldehyde	< 100	NA	NA	NA	NA	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
BC = Results reported are not blank corrected.

Verified By: Re Date: 7/16/09

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **Environmental Health & Engineering, Inc.**
Client Sample ID: **99088**
Client Project ID: **16512**

CAS Project ID: P0902367
CAS Sample ID: P0902367-007

Test Code: EPA Method TO-11A
Instrument ID: Waters LC Module I Plus/UV_Vis 360/LC1
Analyst: Hani Cherazaie
Sampling Media: Silica Gel DNPH Tube
Test Notes: **BC**

Date Collected: 7/9/09
Date Received: 7/10/09
Date Analyzed: 7/12 - 7/13/09
Desorption Volume: 1.0 ml
Volume Sampled: 99.6 Liter(s)

CAS #	Compound	Result ng/Sample	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
50-00-0	**Formaldehyde**	**9,400**	**94**	1.0	**77**	0.82	**M**
75-07-0	**Acetaldehyde**	**3,700**	**37**	1.0	**20**	0.56	
123-38-6	**Propionaldehyde**	**750**	**7.5**	1.0	**3.2**	0.42	
4170-30-3	Crotonaldehyde, Total	< 100	ND	1.0	ND	0.35	
123-72-8	**Butyraldehyde**	**680**	**6.9**	1.0	**2.3**	0.34	
100-52-7	**Benzaldehyde**	**1,300**	**13**	1.0	**2.9**	0.23	
590-86-3	**Isovaleraldehyde**	**320**	**3.2**	1.0	**0.92**	0.29	
110-62-3	**Valeraldehyde**	**2,800**	**28**	1.0	**8.0**	0.29	
529-20-4	o-Tolualdehyde	< 100	ND	1.0	ND	0.20	
620-23-5							
104-87-0	m,p-Tolualdehyde	< 200	ND	2.0	ND	0.41	
66-25-1	**n-Hexaldehyde**	**17,000**	**170**	1.0	**43**	0.25	
5779-94-2	2,5-Dimethylbenzaldehyde	< 100	ND	1.0	ND	0.18	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
BC = Results reported are not blank corrected.
M = Matrix interference; results may be biased high.

Verified By: _____ Date: 7/14/09

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **Environmental Health & Engineering, Inc.**
Client Sample ID: **99093**
Client Project ID: **16512**

CAS Project ID: P0902367
CAS Sample ID: P0902367-008

Test Code: EPA Method TO-11A
Instrument ID: Waters LC Module I Plus/UV_Vis 360/LC1
Analyst: Hani Cherazaie
Sampling Media: Silica Gel DNPH Tube
Test Notes: **BC, g**

Date Collected: 7/9/09
Date Received: 7/10/09
Date Analyzed: 7/12/09
Desorption Volume: 1.0 ml
Volume Sampled: 86.6 Liter(s)

CAS #	Compound	Result ng/Sample	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
50-00-0	Formaldehyde	< 100	ND	1.2	ND	0.94	
75-07-0	Acetaldehyde	< 100	ND	1.2	ND	0.64	
123-38-6	Propionaldehyde	< 100	ND	1.2	ND	0.49	
4170-30-3	Crotonaldehyde, Total	< 100	ND	1.2	ND	0.40	
123-72-8	Butyraldehyde	< 100	ND	1.2	ND	0.39	
100-52-7	Benzaldehyde	< 100	ND	1.2	ND	0.27	
590-86-3	Isovaleraldehyde	< 100	ND	1.2	ND	0.33	
110-62-3	Valeraldehyde	< 100	ND	1.2	ND	0.33	
529-20-4	o-Tolualdehyde	< 100	ND	1.2	ND	0.24	
620-23-5							
104-87-0	m,p-Tolualdehyde	< 200	ND	2.3	ND	0.47	
66-25-1	n-Hexaldehyde	< 100	ND	1.2	ND	0.28	
5779-94-2	**2,5-Dimethylbenzaldehyde**	**1,800**	**21**	1.2	**3.8**	0.21	**M**

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
BC = Results reported are not blank corrected.
M = Matrix interference; results may be biased high.
g = Sample was received wet.

Verified By: R Date: 7/17/09

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **Environmental Health & Engineering, Inc.**
Client Sample ID: **99098**
Client Project ID: **16512**

CAS Project ID: P0902367
CAS Sample ID: P0902367-009

Test Code: EPA Method TO-11A
Instrument ID: Waters LC Module I Plus/UV_Vis 360/LC1
Analyst: Hani Cherazaie
Sampling Media: Silica Gel DNPH Tube
Test Notes: **BC**

Date Collected: 7/9/09
Date Received: 7/10/09
Date Analyzed: 7/12/09
Desorption Volume: 1.0 ml
Volume Sampled: 101.7 Liter(s)

CAS #	Compound	Result ng/Sample	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
50-00-0	**Formaldehyde**	**9,700**	**95**	0.98	**78**	0.80	**M**
75-07-0	**Acetaldehyde**	**2,100**	**21**	0.98	**12**	0.55	
123-38-6	**Propionaldehyde**	**430**	**4.3**	0.98	**1.8**	0.41	
4170-30-3	Crotonaldehyde, Total	< 100	ND	0.98	ND	0.34	
123-72-8	**Butyraldehyde**	**390**	**3.8**	0.98	**1.3**	0.33	
100-52-7	**Benzaldehyde**	**850**	**8.4**	0.98	**1.9**	0.23	
590-86-3	**Isovaleraldehyde**	**230**	**2.2**	0.98	**0.64**	0.28	
110-62-3	**Valeraldehyde**	**1,600**	**16**	0.98	**4.4**	0.28	
529-20-4	o-Tolualdehyde	< 100	ND	0.98	ND	0.20	
620-23-5							
104-87-0	m,p-Tolualdehyde	< 200	ND	2.0	ND	0.40	
66-25-1	**n-Hexaldehyde**	**8,000**	**78**	0.98	**19**	0.24	
5779-94-2	2,5-Dimethylbenzaldehyde	< 100	ND	0.98	ND	0.18	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
BC = Results reported are not blank corrected.
M = Matrix interference; results may be biased high.

Verified By: Ro Date: 7/16/09

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **Environmental Health & Engineering, Inc.**
Client Sample ID: **99103**
Client Project ID: **16512**

CAS Project ID: P0902367
CAS Sample ID: P0902367-010

Test Code: EPA Method TO-11A
Instrument ID: Waters LC Module I Plus/UV_Vis 360/LC1
Analyst: Hani Cherazaie
Sampling Media: Silica Gel DNPH Tube
Test Notes: **BC**

Date Collected: 7/9/09
Date Received: 7/10/09
Date Analyzed: 7/12 - 7/13/09
Desorption Volume: 1.0 ml
Volume Sampled: 104.9 Liter(s)

CAS #	Compound	Result ng/Sample	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
50-00-0	**Formaldehyde**	**10,000**	**96**	0.95	**78**	0.78	**M**
75-07-0	**Acetaldehyde**	**2,800**	**27**	0.95	**15**	0.53	
123-38-6	**Propionaldehyde**	**640**	**6.1**	0.95	**2.6**	0.40	
4170-30-3	Crotonaldehyde, Total	< 100	ND	0.95	ND	0.33	
123-72-8	**Butyraldehyde**	**510**	**4.9**	0.95	**1.7**	0.32	
100-52-7	**Benzaldehyde**	**1,200**	**11**	0.95	**2.6**	0.22	
590-86-3	**Isovaleraldehyde**	**220**	**2.1**	0.95	**0.59**	0.27	
110-62-3	**Valeraldehyde**	**2,500**	**24**	0.95	**6.7**	0.27	
529-20-4	o-Tolualdehyde	< 100	ND	0.95	ND	0.19	
620-23-5							
104-87-0	m,p-Tolualdehyde	< 200	ND	1.9	ND	0.39	
66-25-1	**n-Hexaldehyde**	**12,000**	**120**	0.95	**29**	0.23	
5779-94-2	2,5-Dimethylbenzaldehyde	< 100	ND	0.95	ND	0.17	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
BC = Results reported are not blank corrected.
M = Matrix interference; results may be biased high.

Verified By: Rec Date: 7/16/09

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **Environmental Health & Engineering, Inc.**
Client Sample ID: **99104**
Client Project ID: **16512**

CAS Project ID: P0902367
CAS Sample ID: P0902367-011

Test Code: EPA Method TO-11A
Instrument ID: Waters LC Module I Plus/UV_Vis 360/LC1
Analyst: Hani Cherazaie
Sampling Media: Silica Gel DNPH Tube
Test Notes: **BC**

Date Collected: 7/9/09
Date Received: 7/10/09
Date Analyzed: 7/12 - 7/13/09
Desorption Volume: 1.0 ml
Volume Sampled: 97.9 Liter(s)

CAS #	Compound	Result ng/Sample	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
50-00-0	**Formaldehyde**	**9,300**	**95**	1.0	**77**	0.83	**M**
75-07-0	**Acetaldehyde**	**2,700**	**28**	1.0	**16**	0.57	
123-38-6	**Propionaldehyde**	**570**	**5.8**	1.0	**2.4**	0.43	
4170-30-3	Crotonaldehyde, Total	< 100	ND	1.0	ND	0.36	
123-72-8	**Butyraldehyde**	**520**	**5.3**	1.0	**1.8**	0.35	
100-52-7	**Benzaldehyde**	**1,100**	**11**	1.0	**2.5**	0.24	
590-86-3	**Isovaleraldehyde**	**230**	**2.3**	1.0	**0.66**	0.29	
110-62-3	**Valeraldehyde**	**2,300**	**24**	1.0	**6.7**	0.29	
529-20-4	o-Tolualdehyde	< 100	ND	1.0	ND	0.21	
620-23-5							
104-87-0	m,p-Tolualdehyde	< 200	ND	2.0	ND	0.42	
66-25-1	**n-Hexaldehyde**	**11,000**	**110**	1.0	**27**	0.25	
5779-94-2	2,5-Dimethylbenzaldehyde	< 100	ND	1.0	ND	0.19	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
BC = Results reported are not blank corrected.
M = Matrix interference; results may be biased high.

Verified By: _____ Date: 7/16/09

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **Environmental Health & Engineering, Inc.**
Client Sample ID: **99113**
Client Project ID: **16512**

CAS Project ID: P0902367
CAS Sample ID: P0902367-012

Test Code: EPA Method TO-11A
Instrument ID: Waters LC Module I Plus/UV_Vis 360/LC1
Analyst: Hani Cherazaie
Sampling Media: Silica Gel DNPH Tube
Test Notes: **BC**

Date Collected: 7/9/09
Date Received: 7/10/09
Date Analyzed: 7/12 - 7/13/09
Desorption Volume: 1.0 ml
Volume Sampled: 121 Liter(s)

CAS #	Compound	Result ng/Sample	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
50-00-0	**Formaldehyde**	**12,000**	**97**	0.83	**79**	0.67	**M**
75-07-0	**Acetaldehyde**	**3,600**	**30**	0.83	**17**	0.46	
123-38-6	**Propionaldehyde**	**760**	**6.3**	0.83	**2.6**	0.35	
4170-30-3	Crotonaldehyde, Total	< 100	ND	0.83	ND	0.29	
123-72-8	**Butyraldehyde**	**620**	**5.1**	0.83	**1.7**	0.28	
100-52-7	**Benzaldehyde**	**1,400**	**11**	0.83	**2.6**	0.19	
590-86-3	**Isovaleraldehyde**	**220**	**1.8**	0.83	**0.52**	0.23	
110-62-3	**Valeraldehyde**	**2,900**	**24**	0.83	**6.8**	0.23	
529-20-4	o-Tolualdehyde	< 100	ND	0.83	ND	0.17	
620-23-5							
104-87-0	m,p-Tolualdehyde	< 200	ND	1.7	ND	0.34	
66-25-1	**n-Hexaldehyde**	**15,000**	**130**	0.83	**31**	0.20	
5779-94-2	2,5-Dimethylbenzaldehyde	< 100	ND	0.83	ND	0.15	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
BC = Results reported are not blank corrected.
M = Matrix interference; results may be biased high.

Verified By: Res Date: 7/16/09

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **Environmental Health & Engineering, Inc.**
Client Sample ID: **99118**
Client Project ID: **16512**

CAS Project ID: P0902367
CAS Sample ID: P0902367-013

Test Code: EPA Method TO-11A
Instrument ID: Waters LC Module I Plus/UV_Vis 360/LC1
Analyst: Hani Cherazaie
Sampling Media: Silica Gel DNPH Tube
Test Notes: **BC**

Date Collected: 7/9/09
Date Received: 7/10/09
Date Analyzed: 7/12/09
Desorption Volume: 1.0 ml
Volume Sampled: 70.9 Liter(s)

CAS #	Compound	Result ng/Sample	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
50-00-0	**Formaldehyde**	**370**	**5.2**	1.4	**4.3**	1.1	
75-07-0	**Acetaldehyde**	**340**	**4.7**	1.4	**2.6**	0.78	**BT**
123-38-6	Propionaldehyde	< 100	ND	1.4	ND	0.59	
4170-30-3	Crotonaldehyde, Total	< 100	ND	1.4	ND	0.49	
123-72-8	Butyraldehyde	< 100	ND	1.4	ND	0.48	
100-52-7	Benzaldehyde	< 100	ND	1.4	ND	0.33	
590-86-3	Isovaleraldehyde	< 100	ND	1.4	ND	0.40	
110-62-3	Valeraldehyde	< 100	ND	1.4	ND	0.40	
529-20-4	o-Tolualdehyde	< 100	ND	1.4	ND	0.29	
620-23-5							
104-87-0	m,p-Tolualdehyde	< 200	ND	2.8	ND	0.57	
66-25-1	n-Hexaldehyde	< 100	ND	1.4	ND	0.34	
5779-94-2	2,5-Dimethylbenzaldehyde	< 100	ND	1.4	ND	0.26	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
BC = Results reported are not blank corrected.
BT = Results indicated possible breakthrough; back section > 10% front section.

Verified By: Rio Date: 7/16/09

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **Environmental Health & Engineering, Inc.**
Client Sample ID: **99123**
Client Project ID: **16512**

CAS Project ID: P0902367
CAS Sample ID: P0902367-014

Test Code: EPA Method TO-11A
Instrument ID: Waters LC Module I Plus/UV_Vis 360/LC1
Analyst: Hani Cherazaie
Sampling Media: Silica Gel DNPH Tube
Test Notes: **BC**

Date Collected: 7/9/09
Date Received: 7/10/09
Date Analyzed: 7/12 - 7/13/09
Desorption Volume: 1.0 ml
Volume Sampled: 97.7 Liter(s)

CAS #	Compound	Result ng/Sample	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
50-00-0	**Formaldehyde**	**10,000**	**110**	1.0	**86**	0.83	**M**
75-07-0	**Acetaldehyde**	**2,800**	**28**	1.0	**16**	0.57	
123-38-6	**Propionaldehyde**	**590**	**6.0**	1.0	**2.5**	0.43	
4170-30-3	Crotonaldehyde, Total	< 100	ND	1.0	ND	0.36	
123-72-8	**Butyraldehyde**	**490**	**5.0**	1.0	**1.7**	0.35	
100-52-7	**Benzaldehyde**	**970**	**10**	1.0	**2.3**	0.24	
590-86-3	**Isovaleraldehyde**	**150**	**1.5**	1.0	**0.42**	0.29	
110-62-3	**Valeraldehyde**	**1,900**	**20**	1.0	**5.7**	0.29	
529-20-4	o-Tolualdehyde	< 100	ND	1.0	ND	0.21	
620-23-5							
104-87-0	m,p-Tolualdehyde	< 200	ND	2.0	ND	0.42	
66-25-1	**n-Hexaldehyde**	**9,700**	**100**	1.0	**24**	0.25	
5779-94-2	2,5-Dimethylbenzaldehyde	< 100	ND	1.0	ND	0.19	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
BC = Results reported are not blank corrected.
M = Matrix interference; results may be biased high.

Verified By: Rcr Date: 7/16/09

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **Environmental Health & Engineering, Inc.**
Client Sample ID: **99128**
Client Project ID: **16512**

CAS Project ID: P0902367
CAS Sample ID: P0902367-015

Test Code:	EPA Method TO-11A	Date Collected:	7/9/09
Instrument ID:	Waters LC Module I Plus/UV_Vis 360/LC1	Date Received:	7/10/09
Analyst:	Hani Cherazaie	Date Analyzed:	7/12 - 7/13/09
Sampling Media:	Silica Gel DNPH Tube	Desorption Volume:	1.0 ml
Test Notes:	**BC**	Volume Sampled:	62.6 Liter(s)

CAS #	Compound	Result ng/Sample	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
50-00-0	**Formaldehyde**	**6,200**	**99**	1.6	**81**	1.3	**M**
75-07-0	**Acetaldehyde**	**1,900**	**30**	1.6	**17**	0.89	
123-38-6	**Propionaldehyde**	**410**	**6.5**	1.6	**2.7**	0.67	
4170-30-3	Crotonaldehyde, Total	< 100	ND	1.6	ND	0.56	
123-72-8	**Butyraldehyde**	**360**	**5.7**	1.6	**1.9**	0.54	
100-52-7	**Benzaldehyde**	**710**	**11**	1.6	**2.6**	0.37	
590-86-3	**Isovaleraldehyde**	**120**	**1.9**	1.6	**0.54**	0.45	
110-62-3	**Valeraldehyde**	**1,400**	**22**	1.6	**6.3**	0.45	
529-20-4	o-Tolualdehyde	< 100	ND	1.6	ND	0.33	
620-23-5							
104-87-0	m,p-Tolualdehyde	< 200	ND	3.2	ND	0.65	
66-25-1	**n-Hexaldehyde**	**7,200**	**110**	1.6	**28**	0.39	
5779-94-2	2,5-Dimethylbenzaldehyde	< 100	ND	1.6	ND	0.29	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
BC = Results reported are not blank corrected.
M = Matrix interference; results may be biased high.

Verified By: Rez Date: 7/16/09

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **Environmental Health & Engineering, Inc.**
Client Sample ID: **99129**
Client Project ID: **16512**

CAS Project ID: P0902367
CAS Sample ID: P0902367-016

Test Code: EPA Method TO-11A
Instrument ID: Waters LC Module I Plus/UV_Vis 360/LC1
Analyst: Hani Cherazaie
Sampling Media: Silica Gel DNPH Tube
Test Notes: **BC**

Date Collected: 7/9/09
Date Received: 7/10/09
Date Analyzed: 7/12 - 7/13/09
Desorption Volume: 1.0 ml
Volume Sampled: 72.3 Liter(s)

CAS #	Compound	Result ng/Sample	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
50-00-0	**Formaldehyde**	**7,300**	**100**	1.4	**82**	1.1	**M**
75-07-0	**Acetaldehyde**	**2,200**	**30**	1.4	**17**	0.77	
123-38-6	**Propionaldehyde**	**460**	**6.3**	1.4	**2.7**	0.58	
4170-30-3	Crotonaldehyde, Total	< 100	ND	1.4	ND	0.48	
123-72-8	**Butyraldehyde**	**420**	**5.7**	1.4	**1.9**	0.47	
100-52-7	**Benzaldehyde**	**800**	**11**	1.4	**2.6**	0.32	
590-86-3	**Isovaleraldehyde**	**130**	**1.8**	1.4	**0.50**	0.39	
110-62-3	**Valeraldehyde**	**1,700**	**23**	1.4	**6.6**	0.39	
529-20-4	o-Tolualdehyde	< 100	ND	1.4	ND	0.28	
620-23-5							
104-87-0	m,p-Tolualdehyde	< 200	ND	2.8	ND	0.56	
66-25-1	**n-Hexaldehyde**	**8,500**	**120**	1.4	**29**	0.34	
5779-94-2	2,5-Dimethylbenzaldehyde	< 100	ND	1.4	ND	0.25	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
BC = Results reported are not blank corrected.
M = Matrix interference; results may be biased high.

Verified By: RC Date: 7/16/09

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **Environmental Health & Engineering, Inc.**
Client Sample ID: **99138**
Client Project ID: **16512**

CAS Project ID: P0902367
CAS Sample ID: P0902367-017

Test Code: EPA Method TO-11A
Instrument ID: Waters LC Module I Plus/UV_Vis 360/LC1
Analyst: Hani Cherazaie
Sampling Media: Silica Gel DNPH Tube
Test Notes: **BC**

Date Collected: 7/9/09
Date Received: 7/10/09
Date Analyzed: 7/12 - 7/13/09
Desorption Volume: 1.0 ml
Volume Sampled: 104.2 Liter(s)

CAS #	Compound	Result ng/Sample	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
50-00-0	**Formaldehyde**	**9,800**	**94**	0.96	**76**	0.78	**M**
75-07-0	**Acetaldehyde**	**4,900**	**47**	0.96	**26**	0.53	
123-38-6	**Propionaldehyde**	**970**	**9.3**	0.96	**3.9**	0.40	
4170-30-3	Crotonaldehyde, Total	< 100	ND	0.96	ND	0.33	
123-72-8	**Butyraldehyde**	**850**	**8.2**	0.96	**2.8**	0.33	
100-52-7	**Benzaldehyde**	**1,200**	**11**	0.96	**2.6**	0.22	
590-86-3	**Isovaleraldehyde**	**380**	**3.6**	0.96	**1.0**	0.27	
110-62-3	**Valeraldehyde**	**3,500**	**34**	0.96	**9.6**	0.27	
529-20-4	o-Tolualdehyde	< 100	ND	0.96	ND	0.20	
620-23-5							
104-87-0	m,p-Tolualdehyde	< 200	ND	1.9	ND	0.39	
66-25-1	**n-Hexaldehyde**	**15,000**	**140**	0.96	**34**	0.23	
5779-94-2	2,5-Dimethylbenzaldehyde	< 100	ND	0.96	ND	0.17	

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BC = Results reported are not blank corrected.
M = Matrix interference; results may be biased high.

Verified By: Re Date: 7/16/09

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **Environmental Health & Engineering, Inc.**
Client Sample ID: **99143**
Client Project ID: **16512**

CAS Project ID: P0902367
CAS Sample ID: P0902367-018

Test Code: EPA Method TO-11A
Instrument ID: Waters LC Module I Plus/UV_Vis 360/LC1
Analyst: Hani Cherazaie
Sampling Media: Silica Gel DNPH Tube
Test Notes: **BC, g**

Date Collected: 7/9/09
Date Received: 7/10/09
Date Analyzed: 7/12 - 7/13/09
Desorption Volume: 1.0 ml
Volume Sampled: 76.4 Liter(s)

CAS #	Compound	Result ng/Sample	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
50-00-0	Formaldehyde	< 100	ND	1.3	ND	1.1	
75-07-0	Acetaldehyde	< 100	ND	1.3	ND	0.73	
123-38-6	Propionaldehyde	< 100	ND	1.3	ND	0.55	
4170-30-3	Crotonaldehyde, Total	< 100	ND	1.3	ND	0.46	
123-72-8	Butyraldehyde	< 100	ND	1.3	ND	0.44	
100-52-7	Benzaldehyde	< 100	ND	1.3	ND	0.30	
590-86-3	Isovaleraldehyde	< 100	ND	1.3	ND	0.37	
110-62-3	Valeraldehyde	< 100	ND	1.3	ND	0.37	
529-20-4	o-Tolualdehyde	< 100	ND	1.3	ND	0.27	
620-23-5							
104-87-0	m,p-Tolualdehyde	< 200	ND	2.6	ND	0.53	
66-25-1	n-Hexaldehyde	< 100	ND	1.3	ND	0.32	
5779-94-2	**2,5-Dimethylbenzaldehyde**	**240**	**3.2**	1.3	**0.58**	0.24	**M**

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BC = Results reported are not blank corrected.
M = Matrix interference; results may be biased high.
g = Sample was received wet.

Verified By: R. Date: 7/17/09

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **Environmental Health & Engineering, Inc.**
Client Sample ID: **99148**
Client Project ID: **16512**

CAS Project ID: P0902367
CAS Sample ID: P0902367-019

Test Code: EPA Method TO-11A
Instrument ID: Waters LC Module I Plus/UV_Vis 360/LC1
Analyst: Hani Cherazaie
Sampling Media: Silica Gel DNPH Tube
Test Notes: **BC**

Date Collected: 7/9/09
Date Received: 7/10/09
Date Analyzed: 7/12 - 7/13/09
Desorption Volume: 1.0 ml
Volume Sampled: 101.3 Liter(s)

CAS #	Compound	Result ng/Sample	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
50-00-0	**Formaldehyde**	**8,800**	**87**	0.99	**71**	0.80	
75-07-0	**Acetaldehyde**	**8,500**	**84**	0.99	**46**	0.55	
123-38-6	**Propionaldehyde**	**1,300**	**13**	0.99	**5.5**	0.42	
4170-30-3	Crotonaldehyde, Total	< 100	ND	0.99	ND	0.34	
123-72-8	**Butyraldehyde**	**1,300**	**12**	0.99	**4.2**	0.33	
100-52-7	**Benzaldehyde**	**1,400**	**14**	0.99	**3.1**	0.23	
590-86-3	**Isovaleraldehyde**	**610**	**6.0**	0.99	**1.7**	0.28	
110-62-3	**Valeraldehyde**	**3,900**	**39**	0.99	**11**	0.28	
529-20-4	o-Tolualdehyde	< 100	ND	0.99	ND	0.20	
620-23-5							
104-87-0	m,p-Tolualdehyde	< 200	ND	2.0	ND	0.40	
66-25-1	**n-Hexaldehyde**	**14,000**	**140**	0.99	**34**	0.24	
5779-94-2	2,5-Dimethylbenzaldehyde	< 100	ND	0.99	ND	0.18	

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MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
BC = Results reported are not blank corrected.

Verified By: RC Date: 7/16/09

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **Environmental Health & Engineering, Inc.**
Client Sample ID: **99153**
Client Project ID: **16512**

CAS Project ID: P0902367
CAS Sample ID: P0902367-020

Test Code:	EPA Method TO-11A	Date Collected:	7/9/09
Instrument ID:	Waters LC Module I Plus/UV_Vis 360/LC1	Date Received:	7/10/09
Analyst:	Hani Cherazaie	Date Analyzed:	7/12 - 7/13/09
Sampling Media:	Silica Gel DNPH Tube	Desorption Volume:	1.0 ml
Test Notes:	**BC**	Volume Sampled:	108.5 Liter(s)

CAS #	Compound	Result ng/Sample	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
50-00-0	**Formaldehyde**	**11,000**	**100**	0.92	**83**	0.75	**M**
75-07-0	**Acetaldehyde**	**3,700**	**34**	0.92	**19**	0.51	
123-38-6	**Propionaldehyde**	**800**	**7.4**	0.92	**3.1**	0.39	
4170-30-3	Crotonaldehyde, Total	< 100	ND	0.92	ND	0.32	
123-72-8	**Butyraldehyde**	**710**	**6.5**	0.92	**2.2**	0.31	
100-52-7	**Benzaldehyde**	**1,200**	**11**	0.92	**2.5**	0.21	
590-86-3	**Isovaleraldehyde**	**240**	**2.2**	0.92	**0.63**	0.26	
110-62-3	**Valeraldehyde**	**2,900**	**27**	0.92	**7.6**	0.26	
529-20-4	o-Tolualdehyde	< 100	ND	0.92	ND	0.19	
620-23-5							
104-87-0	m,p-Tolualdehyde	< 200	ND	1.8	ND	0.38	
66-25-1	**n-Hexaldehyde**	**14,000**	**130**	0.92	**31**	0.23	
5779-94-2	2,5-Dimethylbenzaldehyde	< 100	ND	0.92	ND	0.17	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
BC = Results reported are not blank corrected.
M = Matrix interference; results may be biased high.

Verified By: Rev Date: 7/16/09

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **Environmental Health & Engineering, Inc.**
Client Sample ID: **99154**
Client Project ID: **16512**

CAS Project ID: P0902367
CAS Sample ID: P0902367-021

Test Code: EPA Method TO-11A
Instrument ID: Waters LC Module I Plus/UV_Vis 360/LC1
Analyst: Hani Cherazaie
Sampling Media: Silica Gel DNPH Tube
Test Notes: **BC**

Date Collected: 7/9/09
Date Received: 7/10/09
Date Analyzed: 7/12 - 7/13/09
Desorption Volume: 1.0 ml
Volume Sampled: 103.9 Liter(s)

CAS #	Compound	Result ng/Sample	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
50-00-0	**Formaldehyde**	**11,000**	**100**	0.96	**83**	0.78	**M**
75-07-0	**Acetaldehyde**	**3,600**	**35**	0.96	**19**	0.53	
123-38-6	**Propionaldehyde**	**750**	**7.3**	0.96	**3.1**	0.41	
4170-30-3	Crotonaldehyde, Total	< 100	ND	0.96	ND	0.34	
123-72-8	**Butyraldehyde**	**680**	**6.5**	0.96	**2.2**	0.33	
100-52-7	**Benzaldehyde**	**1,200**	**11**	0.96	**2.6**	0.22	
590-86-3	**Isovaleraldehyde**	**280**	**2.7**	0.96	**0.76**	0.27	
110-62-3	**Valeraldehyde**	**2,800**	**26**	0.96	**7.5**	0.27	
529-20-4	o-Tolualdehyde	< 100	ND	0.96	ND	0.20	
620-23-5							
104-87-0	m,p-Tolualdehyde	< 200	ND	1.9	ND	0.39	
66-25-1	**n-Hexaldehyde**	**13,000**	**130**	0.96	**32**	0.24	
5779-94-2	2,5-Dimethylbenzaldehyde	< 100	ND	0.96	ND	0.18	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
BC = Results reported are not blank corrected.
M = Matrix interference; results may be biased high.

Verified By: _____ Date: 7/16/09

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **Environmental Health & Engineering, Inc.**
Client Sample ID: **99163**
Client Project ID: **16512**

CAS Project ID: P0902367
CAS Sample ID: P0902367-022

Test Code: EPA Method TO-11A
Instrument ID: Waters LC Module I Plus/UV_Vis 360/LC1
Analyst: Hani Cherazaie
Sampling Media: Silica Gel DNPH Tube
Test Notes: **BC**

Date Collected: 7/9/09
Date Received: 7/10/09
Date Analyzed: 7/12 - 7/13/09
Desorption Volume: 1.0 ml
Volume Sampled: NA Liter(s)

CAS #	Compound	Result ng/Sample	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
50-00-0	Formaldehyde	< 100	NA	NA	NA	NA	
75-07-0	Acetaldehyde	< 100	NA	NA	NA	NA	
123-38-6	Propionaldehyde	< 100	NA	NA	NA	NA	
4170-30-3	Crotonaldehyde, Total	< 100	NA	NA	NA	NA	
123-72-8	Butyraldehyde	< 100	NA	NA	NA	NA	
100-52-7	Benzaldehyde	< 100	NA	NA	NA	NA	
590-86-3	Isovaleraldehyde	< 100	NA	NA	NA	NA	
110-62-3	Valeraldehyde	< 100	NA	NA	NA	NA	
529-20-4	o-Tolualdehyde	< 100	NA	NA	NA	NA	
620-23-5							
104-87-0	m,p-Tolualdehyde	< 200	NA	NA	NA	NA	
66-25-1	n-Hexaldehyde	< 100	NA	NA	NA	NA	
5779-94-2	2,5-Dimethylbenzaldehyde	< 100	NA	NA	NA	NA	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
BC = Results reported are not blank corrected.

Verified By: RC Date: 7/16/09

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **Environmental Health & Engineering, Inc.**
Client Sample ID: **Method Blank (11:31)**
Client Project ID: **16512**

CAS Project ID: P0902367
CAS Sample ID: P090712-MB

Test Code: EPA Method TO-11A
Instrument ID: Waters LC Module I Plus/UV_Vis 360/LC1
Analyst: Hani Cherazaie
Sampling Media: Silica Gel DNPH Tube
Test Notes: **BC**

Date Collected: NA
Date Received: NA
Date Analyzed: 07/12/09
Desorption Volume: 1.0 ml
Volume Sampled: NA Liter(s)

CAS #	Compound	Result ng/Sample	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
50-00-0	Formaldehyde	< 100	NA	NA	NA	NA	
75-07-0	Acetaldehyde	< 100	NA	NA	NA	NA	
123-38-6	Propionaldehyde	< 100	NA	NA	NA	NA	
4170-30-3	Crotonaldehyde, Total	< 100	NA	NA	NA	NA	
123-72-8	Butyraldehyde	< 100	NA	NA	NA	NA	
100-52-7	Benzaldehyde	< 100	NA	NA	NA	NA	
590-86-3	Isovaleraldehyde	< 100	NA	NA	NA	NA	
110-62-3	Valeraldehyde	< 100	NA	NA	NA	NA	
529-20-4	o-Tolualdehyde	< 100	NA	NA	NA	NA	
620-23-5							
104-87-0	m,p-Tolualdehyde	< 200	NA	NA	NA	NA	
66-25-1	n-Hexaldehyde	< 100	NA	NA	NA	NA	
5779-94-2	2,5-Dimethylbenzaldehyde	< 100	NA	NA	NA	NA	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
BC = Results reported are not blank corrected.
NA = Not applicable.

Verified By: Rc Date: 7/16/09

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **Environmental Health & Engineering, Inc.**
Client Sample ID: **Method Blank (18:17)**
Client Project ID: **16512**

CAS Project ID: P0902367
CAS Sample ID: P090712-MB

Test Code: EPA Method TO-11A
Instrument ID: Waters LC Module I Plus/UV_Vis 360/LC1
Analyst: Hani Cherazaie
Sampling Media: Silica Gel DNPH Tube
Test Notes: **BC**

Date Collected: NA
Date Received: NA
Date Analyzed: 07/12/09
Desorption Volume: 1.0 ml
Volume Sampled: NA Liter(s)

CAS #	Compound	Result ng/Sample	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
50-00-0	Formaldehyde	< 100	NA	NA	NA	NA	
75-07-0	Acetaldehyde	< 100	NA	NA	NA	NA	
123-38-6	Propionaldehyde	< 100	NA	NA	NA	NA	
4170-30-3	Crotonaldehyde, Total	< 100	NA	NA	NA	NA	
123-72-8	Butyraldehyde	< 100	NA	NA	NA	NA	
100-52-7	Benzaldehyde	< 100	NA	NA	NA	NA	
590-86-3	Isovaleraldehyde	< 100	NA	NA	NA	NA	
110-62-3	Valeraldehyde	< 100	NA	NA	NA	NA	
529-20-4	o-Tolualdehyde	< 100	NA	NA	NA	NA	
620-23-5							
104-87-0	m,p-Tolualdehyde	< 200	NA	NA	NA	NA	
66-25-1	n-Hexaldehyde	< 100	NA	NA	NA	NA	
5779-94-2	2,5-Dimethylbenzaldehyde	< 100	NA	NA	NA	NA	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
BC = Results reported are not blank corrected.
NA = Not applicable.

Verified By: Re Date: 7/16/09

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **Environmental Health & Engineering, Inc.**
Client Sample ID: **Method Blank**
Client Project ID: **16512**

CAS Project ID: P0902367
CAS Sample ID: P090713-MB

Test Code: EPA Method TO-11A
Instrument ID: Waters LC Module I Plus/UV_Vis 360/LC1
Analyst: Hani Cherazaie
Sampling Media: Silica Gel DNPH Tube
Test Notes: **BC**

Date Collected: NA
Date Received: NA
Date Analyzed: 07/13/09
Desorption Volume: 1.0 ml
Volume Sampled: NA Liter(s)

CAS #	Compound	Result ng/Sample	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
50-00-0	Formaldehyde	< 100	NA	NA	NA	NA	
75-07-0	Acetaldehyde	< 100	NA	NA	NA	NA	
123-38-6	Propionaldehyde	< 100	NA	NA	NA	NA	
4170-30-3	Crotonaldehyde, Total	< 100	NA	NA	NA	NA	
123-72-8	Butyraldehyde	< 100	NA	NA	NA	NA	
100-52-7	Benzaldehyde	< 100	NA	NA	NA	NA	
590-86-3	Isovaleraldehyde	< 100	NA	NA	NA	NA	
110-62-3	Valeraldehyde	< 100	NA	NA	NA	NA	
529-20-4	o-Tolualdehyde	< 100	NA	NA	NA	NA	
620-23-5							
104-87-0	m,p-Tolualdehyde	< 200	NA	NA	NA	NA	
66-25-1	n-Hexaldehyde	< 100	NA	NA	NA	NA	
5779-94-2	2,5-Dimethylbenzaldehyde	< 100	NA	NA	NA	NA	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
BC = Results reported are not blank corrected.
NA = Not applicable.

Verified By: Rec Date: 7/16/09